

IN THE CLAIMS:

1. (amended) A method of implanting first and second stents with associated grafts within first and second vessel regions extending at an angle with respect to each other, the method comprising:
 - inserting a first guidewire to guide a first stent with an associated first graft to the first vessel region;
 - inserting a second guidewire to guide a second stent with an associated second graft having a retaining flange to the second vessel region;
 - inserting a first delivery sheath containing the first stent with the associated first graft over the first guidewire to the first target vessel region, the first sheath including a longitudinally extending slot opening at a distal end;
 - removing the first delivery sheath as the slot slides past the second guidewire to enable the first stent with the associated first graft to expand against the wall of the first vessel region;
 - inserting a second delivery sheath containing the second stent with the associated second graft over the second guidewire to the second vessel region; and
 - removing the second delivery sheath to enable the second stent with the associated second graft to expand against the wall of the second vessel region and fluidly communicate with the first stent and associated first graft with the retaining flange retaining a portion of the second graft within the first graft.
2. (original) The method of claim 2, wherein the step of inserting the second delivery sheath includes the step of inserting the delivery sheath through an opening in a sidewall of the first graft to enable the first and second grafts to fluidly communicate.
3. (original) The method of claim 2, wherein the step of removing the second delivery sheath comprises removing the sheath through the expanded first stent.
4. (original) The method of claim 3, wherein the first and second stents are made of shape memory material and the step of removing the first and second sheaths to enable the first and second stents to expand causes the first and second stents to automatically expand against the vessel wall.

5. (original) The method of claim 3, wherein the step of removing the first and second sheaths to enable the first and second stents to expand provides room for expansion of the first and second stents, and the method further comprises the step of inflating a balloon to expand each of the stents.

6. (amended) A method of implanting a first and second graft within the carotid arteries comprising:

inserting a first guidewire into a common carotid artery and extending into an internal carotid artery to guide a first stent having a first graft to a target region of the common carotid artery;

inserting a second guidewire into the common carotid artery and extending into an external carotid artery to guide a second stent having a second graft having a retaining flange to the external carotid artery;

subsequent to inserting the first and second guidewires inserting the first stent and first graft over the first guidewire to a stenosed region in the carotid artery to enable the first stent and first graft to expand against the stenosed region, the first graft extending into the internal common artery past the juncture of the common carotid artery and the external carotid artery; and

inserting the second stent with the second graft over the second guidewire to the external carotid artery to enable the second stent and second graft to expand against the wall of the external carotid artery, thereby maintaining flow between the common carotid artery and the external carotid artery, wherein the step of inserting the second stent and graft comprises the step of inserting the second stent and graft through the first stent and graft, and the retaining flange of the second graft retaining a portion of the second graft and stent within the first graft and stent.

7. (canceled)

8. (previously amended) The method of claim 6, wherein the step of inserting the second stent and graft through the first stent and graft comprises the step of inserting the second stent and graft through an opening in the sidewall of the first stent and graft.

9. (original) The method of claim 8, further comprising the steps of withdrawing a first sheath to expose the first stent and graft to allow expansion thereof and withdrawing a second sheath to expose the second stent and graft to allow expansion thereof.

10. (amended) A method of implanting a bifurcated stent within first and second vessel regions extending at an angle with respect to each other, the method comprising:

inserting a first guidewire to guide a first stent and first graft portion to the first vessel region;

inserting a second guidewire to guide a second stent and second graft portion to a second vessel region;

inserting over the first and second guidewires a delivery catheter containing the first and second stent and graft portions and containing first and second delivery sheaths having coaxial portions over the first and second guidewires, respectively, to the vessel regions so the first delivery sheath extends into the first vessel region and the second delivery sheath extends into the second vessel region; and

subsequently removing the delivery catheter to expose the first and second delivery sheaths having coaxial portions to enable the first stent and graft portion to expand against the wall of the first vessel and to enable the second stent and graft portion to expand against the wall of the second vessel.

11. (original) The method of claim 10, further comprising the steps of folding the second graft portion towards the first graft portion and inserting the stent and graft portions inside the delivery sheath in the folded condition prior to inserting the delivery device over the guidewires.

12. (amended) A method of implanting a bifurcated stent with associated grafts within first and second vessel regions extending at an angle with respect to each other, the bifurcated stent having a first portion and a second portion extending at an angle to the first portion, the method comprising:

inserting a first guidewire to guide the first stent portion with an associated first graft to the first vessel region;

inserting a second guidewire to guide the second stent portion with an associated second graft to the second vessel region;

providing a second delivery sheath within the first delivery sheath;

subsequent to insertion of the first and second guidewires inserting together the first delivery sheath containing the first stent portion with the associated first graft over the first guidewire to the first vessel region and the second delivery sheath containing the second stent portion with the associated second graft over the second guidewire to the second vessel region;

subsequent to positioning of the first and second delivery sheaths in the first and second vessel regions, removing the first delivery sheath to enable the first stent portion with the associated first graft to expand against the wall of the first vessel region; and

subsequent to removal of the first sheath, removing the second delivery sheath to enable the second stent portion with the associated second graft to expand against the wall of the second vessel region and fluidly communicate with the first stent and associated graft.

13. (previously amended) The method of claim 12, wherein the step of removing the first delivery sheath includes the step of withdrawing the first delivery sheath over the second delivery sheath.

14. (original) The method of claim 13, wherein the step of inserting the second delivery sheath includes the step of inserting the second delivery sheath through an opening in the first delivery sheath.

15. (canceled)

16. (amended) A method of implanting within the carotid arteries a bifurcated graft having a first graft portion and a second graft portion, the method comprising:

inserting a first guidewire into a common carotid artery and extending into an internal carotid artery to guide a first graft portion into the internal carotid artery;

inserting a second guidewire into the common carotid artery and extending into an external carotid artery to guide the second graft portion to the external carotid artery; and

inserting together the first and second graft portions over the first and second guidewires, respectively, so the first graft portion extends into the internal common artery past the juncture of the common carotid artery and the external carotid artery and inserting the second graft portion ~~over the second guidewire~~ extends into the external carotid artery to enable the second stent graft portion to expand against the wall of the external carotid artery, thereby maintaining flow between the common carotid artery and the external carotid artery, the second graft portion being positioned within the first graft portion during delivery of the first graft to the common carotid artery.

17. (original) The method of claim 16, further comprising the step of withdrawing a first sheath positioned over the first graft portion to allow expansion of the first graft portion.

18. (original) The method of claim 17, further comprising the step of withdrawing a second sheath positioned over the second graft portion to allow expansion of the second graft portion.
19. (original) The method of claim 16, further comprising the step of withdrawing a sheath positioned over the second graft portion to allow expansion of the second graft portion.
20. (original) The method of claim 18, further comprising the step of inserting an insertion tube into the common carotid artery, the first and second sheaths being positioned within the insertion tube.

Claims 21-27 canceled (without prejudice or disclaimer)